

Molecular Characterization of White Spot Syndrome Virus in Some Cultured Penaeid Shrimps of Coastal Regions in Bangladesh

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Abstract : Bangladesh is earning a lot of foreign currency by exporting shrimp, but this industry is facing a tremendous problem due to the infection of white spot syndrome virus (WSSV). This study was undertaken to develop rapid detection method of WSSV. A total of shrimp samples 240 collected from the 12 shrimp farms of different coastal regions (Satkhira, Khulna, and Bagerhat) were analyzed by conventional PCR using VP28 and VP664 gene-specific primers. In satkhira, Bagerhat and Khulna 39, 41 and 29 samples were found WSSV positive respectively. Real-time PCR using 71-bp amplicon for VP664 gene correlated well with conventional PCR data. The prevalence rates of WSSV among the collected 240 samples were Satkhira 38%, Khulna 47% and Bagerhat 50%. Molecular analysis of the VP28 gene sequences of WSSV revealed that Bangladeshi strains phylogenetically affiliated to the strains belong to India. This work concluded that WSSV infections are widely distributed in the coastal regions cultured shrimp in Bangladesh. Physico-chemical parameters were within the range of fish culture.

Keywords : coastal regions of Bangladesh, PCR, shrimp, white spot syndrome virus

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